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ELECTRONIC DATA INTERCHANGE

Report of the Secretary-General

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INTRODUCTION

1. The Commission as its seventeenth session in 1984 decided to place the subject of the legal implications of automatic data processing to the flow of international trade on its programme of work as a priority item. 1/

2. At its eighteenth session in 1985, the Commission had before it a report by the Secretariat on the legal value of computer records (A/CN.9/265). That report came to the conclusion that, on a global level, there were fewer problems in the use of data stored in computers as evidence in litigation than might have been expected. It noted that a more serious legal obstacle to the use of computers and computer-to-computer telecommunications in international trade arose out of requirements that documents be signed or that documents be in paper form. After discussion of the report, the Commission adopted a recommendation, the substantive provisions of which read as follows:

> "The United Nations Commission on International Trade Law,
>
> (a) Recommends to Governments:
>
> (i) to review the legal rules affecting the use of computer records as evidence in litigation in order to eliminate unnecessary obstacles to their admission, to be assured that the rules are consistent with developments in technology, and to provide appropriate means for a court to evaluate the credibility of the data contained in those records;
>
> (ii) to review legal requirements that certain trade transactions or trade related documents be in writing, whether the written form is a condition to the enforceability or to the validity of the transaction or document, with a view to permitting, where appropriate, the transaction or document to be recorded and transmitted in computer-readable form;
>
> (iii) to review legal requirements of a handwritten signature or other paper-based method of authentication on trade related documents with a view to permitting, where appropriate, the use of electronic means of authentication;
>
> (iv) to review legal requirements that documents for submission to governments be in writing and manually signed with a view to permitting, where appropriate, such documents to be submitted in computer-readable form to those administrative services which have acquired the necessary equipment and established the necessary procedures;
>
> (b) Recommends to international organizations elaborating legal texts related to trade to take account of the present Recommendation in adopting such texts and, where appropriate, to consider modifying existing legal texts in line with the present Recommendation." 2/

3. That recommendation (hereinafter referred to as the 1985 UNCITRAL Recommendation) was endorsed by the General Assembly in resolution 40/71, paragraph 5(b), of 11 December 1985 as follows:

"The General Assembly,

... Calls upon Governments and international organizations to take action, where appropriate, in conformity with the Commission's recommendation so as to ensure legal security in the context of the widest possible use of automated data processing in international trade; ...".

4. At its nineteenth and twentieth sessions (1986 and 1987, respectively), the Commission had before it two further reports on the legal aspects of automatic data processing (A/CN.9/279 and A/CN.9/292), which described and analysed the work of international organizations active in the field.

5. At its twenty-first session (1988), the Commission considered a proposal to examine the need to provide for the legal principles that would apply to the formation of international commercial contracts by electronic means and particularly through the medium of visual display screens. It was noted that there currently existed no refined legal structure for the important and rapidly growing field of formation of contracts by electronic means and that future work in that area could help to fill a legal vacuum and to reduce uncertainties and difficulties encountered in practice. The Commission requested the Secretariat to prepare a preliminary study on the topic. 3/

6. At its twenty-third session (1990), the Commission had before it the report that it had requested, entitled "Preliminary study of legal issues related to the formation of contracts by electronic means" (A/CN.9/333). The report noted that in prior reports the subject had been considered under the general heading of "automatic data processing" (ADP) but that, in recent years, the term generally used to describe the use of computers for business applications had changed to "electronic data interchange" (EDI).

7. The report summarized work that had been undertaken in the European Communities and in the United States of America on the requirement of a writing as well as other issues that had been identified as arising in the formation of contracts by electronic means. The efforts to overcome some of those problems by the use of model communication agreements was also discussed. The report suggested that the Secretariat might be requested to submit a further report to the next session of the Commission indicating developments in other organizations during the year relevant to the legal issues arising in EDI. It was also suggested that the report might analyse existing and proposed model communication agreements with a view to recommending whether a model agreement should be available for world-wide use and, if so, whether the Commission should undertake its preparation.

8. The Commission requested the Secretariat to continue its examination of the legal issues related to the formation of contracts by electronic means and to prepare for the Commission at its twenty-fourth session the report that had been suggested. The Commission expressed the wish that the report would give it the basis on which to decide at that time what work might be undertaken by the Commission in the field. 4/

9. The present Report is divided into three parts. The first part describes recent work undertaken by other organizations relating to legal aspects of EDI. The second part examines and briefly compares the way in which legal issues are covered by the various communications agreements, model

rules or other documents of a contractual nature that have been prepared for use between EDI users. The third part contains a short discussion of possible work items for the Commission in the field of EDI.

I. CURRENT ACTIVITIES IN VARIOUS ORGANIZATIONS

10. The international organizations whose work is reported on in this part of the report are all based in Europe, though some of them have non-European membership as well. This is a reflection of the fact that the use of EDI for international trade purpose is developing most intensively in Europe and North America. However, the developments in Europe can be expected to be followed in other parts of the world in the near future.

11. It may also be pointed out that, with the exception of the International Maritime Committee (CMI), the international organizations whose work is reported on in this first part are not mainly concerned with the unification of legal rules. Those organizations primarily deal with the technical and administrative issues of EDI. The situation may be that an international organization is concerned with the issues of EDI because its mandate encompasses telecommunications in general. This is for example the case of the TEDIS Programme, which is carried out within the Directorate-General No. XIII (Telecommunications, Information Industries and Innovation) of the Commission of the European Communities. The situation may also be that an international organization is concerned with the development of EDI because of the impact of the new communication techniques on the facilitation of international trade. This is for example the case of the International Chamber of Commerce and the Working Party on Facilitation of International Trade Procedures (WP.4) of the United Nations Economic Commission for Europe. Yet another situation may be that an international organization is concerned with the possible impact of EDI on commercial practices in a particular type of economic activity. This is the case of the International Rail Transport Committee and of the International Road Transport Union. Those organizations have developed legal programmes as a complement to their main activity.

A. Commission of the European Communities

1. Work undertaken under the TEDIS 1 programme

12. The first phase of the TEDIS (Trade Electronic Data Interchange Systems) programme was implemented by the Commission of the European Communities in 1988 and 1989 (see A/CN.9/333, para. 15). The decision to deal with legal matters within the TEDIS programme was based on the assumption that the legal status of EDI messages, their contractual validity and their value as evidence would be crucial factors for the development of EDI in both the commercial and public sectors. Thus the first activity of TEDIS in this area consisted of identifying the legal questions that might constitute obstacles to EDI.

13. The TEDIS Activity Report presented in July 1990 identified as obstacles to EDI various legal requirements arising out of regulations or practices which resulted essentially from a predominance of the written medium and the handwritten signature. The Activity Report noted that all obligations to issue, transmit or keep documents on paper or requirements of a signature were obviously barriers to EDI. 5/

14. The Commission of the European Communities had a study prepared on the legal obligations to issue, transmit or keep documents on paper or with a handwritten signature in the Member States. The study, named "TEDIS - The legal position of the Member States with respect to Electronic Data Interchange" (hereinafter referred to as the TEDIS study), was circulated in 1990 and is currently available both in English and French language versions. 6/

15. The TEDIS study was summarized in document A/CN.9/333, paras. 15 to 41. It examined the legislation of the European Community Member States using two methods of approach: a "vertical" approach involving an analysis of the legislation of each Member State; and a "horizontal" approach, analysing the constraints in the various legal systems related to the obligation to draw up written documents on paper and with a signature.

16. The analysis was oriented towards these latter requirements, the predominance of writing and handwritten signatures having been identified as a priority matter. It noted that in fields such as transport, methods of payment or the settlement of legal disputes, paper supporting documents were required and represented a major obstacle to the development of EDI.

17. The TEDIS study allowed a typology of current constraints to be established. Those constraints are essentially of three kinds:

- those involving obligations imposed in certain areas of law, often in different ways in each of the Member States, to draw up, issue, send or keep signed paper documents, for reasons relating to the validity of the legal instrument concerned or to the validity of the data contained therein as evidence;

- obstacles related to the requirements of evidence, which can be viewed from the standpoint of "continental" law or of common law; attention was drawn to the elusive nature of information transmitted by EDI and the concomitant difficulty of establishing evidence of what has been exchanged;

- difficulties relating to the determination of the precise time and place of conclusion or completion of operations carried out by EDI.

18. The report concluded that a major barrier to the use of EDI resulted from the need for written evidence essentially in the fields of transport (negotiable bills of lading), payment techniques (cheque, bill of exchange, letter of credit), and the settlement of disputes (though international agreements have solved some of the problems in this area).

19. Taking account of the agreements reached with the EFTA Member States, plans were made to extend the analysis to those countries. The resulting report should be available late in 1991.

20. The TEDIS programme coordinated some of the work of various legal working parties set up in Europe to work on EDI-related issues. For example, it took part in meetings held by the legal advisory group of the EDI Association in the United Kingdom (UK-EDIA) for the preparation of the "Model Interchange Agreement" completed in 1989. The Commission is currently drafting a standard agreement with the cooperation of the legal experts working in the legal working parties of the sectoral projects and of UK-EDIA.

21. Finally, the Commission of the European Communities plans to publish in the near future specific reports on the following issues: contract formation; liability of network operators; trusted third parties and similar services.

22. Contract formation. The report on that issue is expected to analyse the impact of EDI on the formation of contracts and make proposals for reforms or changes in the law. The report will examine the legal aspects of contracts formed by EDI (in the sense of the transfer of structured data based on approved standard messages, by electronic means between computers). The report is supposed to address in particular: the principles determining the time and place of contract formation; the impact on these two factors (time and place of formation) of the involvement of one or more intermediaries (value-added services, clearing houses, etc.); the question of the transmission of general conditions of contract; and the revocability of offers. The analysis will be made on the basis of a comparative law approach. The Report is expected to be available before the end of 1991.

23. Liability of network operators. The report on that issue will analyse the situation of the network operators (public and private sectors), network suppliers and service providers regarding their liability for the transmission of EDI messages and make proposals for any necessary harmonization at the European level. The analysis will also attempt to determine to what extent enterprises bear, or will bear, the risks inherent in the transmission of EDI messages, such as delays, errors, omissions, fraud, etc. and in particular, to what extent the damage resulting from such problems will be their responsibility or can be borne by third parties. Where necessary, proposals will be made to improve the situation and promote a better balance.

24. Trusted third parties and similar services. The report on that issue will consist of an analysis of the bodies that already exist in Europe or that are envisaged to perform the functions of a trusted third party, namely to keep a reliable record of EDI messages. The report will describe or define the models that can be envisaged for such trusted third parties and the extent to which they will meet users' legal requirements, notably as regards the later use of electronic data as evidence. The required characteristics of the models will be examined and defined on the basis of the functions to be carried out.

2. Future work under the TEDIS 2 programme 7/

25. A programme of work for the second phase of the TEDIS programme has been prepared by the Commission of the European Communities and is currently in the process of being finally approved. That second phase is scheduled to last over a period of thirty-six months, provisionally set to start on 1 July 1991. Measures of a legal nature to be taken in the second phase of the TEDIS programme will be directly linked to the implementation of "paperless trading".

26. The programme of work is described as follows:

"Further attention will be given to issues relating to the layout of contracts, the responsibility of network operators and outside certification bodies or similar services (electronic legal back-up service). Requirements as regards harmonization or adaptation of laws will be decided.

A model agreement which will provide a legal basis for EDI will be finalized by 1991. This will also serve as a reference point for European firms and possibly network operators.

There are considerable problems with regard to the value and status in law of EDI messages and the dematerialization of essential documents in commercial law such as bills of lading, letters of credit; etc. A discussion should be prepared as soon as possible, thereby enabling the appropriate legal instruments to be drawn up after suitable discussions have taken place."

B. Working Party on Facilitation of International Trade Procedures (WP.4)

27. In March 1990, the Working Party on Facilitation of International Trade Procedures (WP.4) of the United Nations Economic Commission for Europe

"requested its rapporteurs on Legal Questions to establish, in co-operation with an ad hoc Group, a detailed action programme on legal aspects of trade data interchange, with indication of priorities and proposals concerning the resources which would be needed to execute the programme. The ad hoc Group will comprise France, Romania, Switzerland, the United Kingdom, the United States, UNCITRAL, the European Economic Community, and the International Chamber of Commerce. New Zealand will contribute by correspondence to the preparation of the action programme." (See TRADE/WP.4/171, para. 19).

The UNCITRAL Secretariat has participated in two meetings of the ad hoc group and in the meetings of the Working Party.

1. Overview of the action programme

28. An action programme on commercial and legal aspects of trade facilitation was adopted at the thirty-third session of the Working Party in March 1991. That document (TRADE/WP.4/R.697) contains an overview of the situation, proposes a working structure and contains descriptions of the specific projects and tasks constituting the action programme. A listing of previous related documentation issued by WP.4 is also attached to that document. Some significant paragraphs of the action programme are reproduced below.

"WP.4's prime task is to ensure that the red tape of international trade is eliminated so that trade can be easier and cheaper. Red tape is not solely created by administrations; it is also created by banks, carriers, insurers, ports, etc. and even by the commercial parties themselves.

In trying to identify the nature of the issues faced, it was recognised that the proper focus is upon commercial and official practices and how the law (whether commercial, national or international) impacts on such practices. This is especially true

with the use of new techniques, such as EDI, and with 'legal problems' perceived by the operators of commercial and official (regulatory) practices.

EDI is such a signficant change in practice that some users start to perceive 'problems' which in reality may not be there, so it is recognised that some problems may call for only an increased awareness of changes in commercial practices rather than the creation of a new legal solution.

EDI itself produces other versions of pre-conceptions. Some experts have suggested giving attributes to EDI 'documents' that have never been given to the paper equivalents (e.g. some ideas on security are such that, if thought necessary, one may ask why haven't all documents gone by registered post). Another way of putting this is that in most cases it is the commercial/official function (e.g. purchase order, import clearance document) that is significant in terms of what level of security is required, not the medium (e.g. paper, fax, EDI).

A final point considered is that, at least in common law countries, it has to be recognised that there is already plenty of relevant case law, with computer produced evidence, and its pre-computer equivalent having been around for years. (Telegraphic communications have been around even longer and commercial codes were widely used in 1920's-60's etc).

These considerations reflect, in the view of the rapporteurs and ad hoc group, the conflicting comments that are being made about whether or not the use of EDI raises material legal problems. However, in contrast to domestic trade, international trade poses additional problems, some of which relate to, or can be solved by, international treaties and conventions."

29. According to the action programme, the work of WP.4 should try to achieve: "awareness, coordination, concentration and action". It is suggested in the programme that:

"To achieve its objectives, the Working Party needs to see that:

- advice is offered to users on the impact on commercial and official practice of using EDI.

- guidance that there is not a legal difficulty in some cases will be as important as offering legal solutions in other cases.

- it may be necessary to give special emphasis to constructing legal solutions within civil law countries and international conventions that may need to be specifically amended.

- any legal solutions should be suitable for both common and civil law countries.

The Working Party has always had the task of co-ordinating work on the facilitation of international trade procedures. In practice it has generally only done work itself when no more appropriate body could be found. The CCC (with the harmonised system), the ICC (with UNCID), UNCITRAL (on evidential value) and ICS [International Chamber

of Shipping] / IATA [International Air Transport Association] etc. (with standard transport documents) are all good examples of other organisations which have been, for certain projects, the appropriate bodies. Continued co-ordination of the work is essential."

30. As a conclusion of the overview of the action programme, the Working Party adopted the following terms of reference for its overall activity dealing with the commercial and legal aspects of trade facilitation:

"to eliminate any constraints to international trade through problems of a legal and/or commercial practice nature (with particular reference to the use of EDI) by co-ordinating action with all interested parties and, where necessary, carrying out specific projects."

2. List of projects adopted by WP.4

31. The Action Programme adopted by the Working Party encompasses a number of projects. The description of those projects is summarized below.

(a) Interchange Agreements

32. The objective of the project is "to ensure reasonable harmonisation of interchange agreements and the development of an internationally accepted version for optional use." The Action Programme also states that:

"Any method of communication requires discipline in order to be effective. Such discipline is normally achieved by applying generally acceptable rules of conduct. In the EDI context, such rules have been developed as interchange agreements within a number of user groups (e.g. ODETTE), national organisations (e.g. UK-EDIA; American Bar Association) and regionally (e.g. EEC). Like the ICC Uniform Rules of Conduct for Interchange of Trade Data by Tele-transmission (UNCID) on which most current examples are based, these agreements generally apply only to the interchange of data and not to the underlying commercial contracts between the parties.

The agreements, however, present in many instances different solutions with respect to the topics addressed and often address concerns of specific relevance to the identified needs within the sponsoring industry, organization, country or region. As a result, by virtue of the number of agreements and the diversity of their terms, there is a possible barrier to international trade arising from the absence of an internationally acceptable form of agreement which may be adopted for use in commercial practice."

33. The project has two elements:

- "To continue to review work currently undertaken, monitoring additional agreements developed, and

- to develop an interchange agreement (to be used in its entirety), to be recommended at the international level for optional use."

34. The Working Party decided to give "high priority" to that project and to aim for completion by 1995.

(b) Legal Part of UN/TDID

35. The project aims at incorporating into the UN/TDID (the Trade Data Interchange Directory) a part on legal aspects of EDI including the ICC UNCID Rules. It is intended to include in the Part on legal aspects: an introductory note on UNCID; the text of UNCID; and a general statement on the evolution of interchange agreements and associated documents such as user manuals.

(c) Negotiable Documents

36. The objective of the project is to reduce barriers to international trade stemming from the commercial practice of transferring rights via the use of negotiable documents, such as bills of lading.

37. The description of the project includes:

- Review and co-ordination of efforts already undertaken in order to achieve negotiability of electronic documents, as well as of efforts made with a view to eliminate reliance upon negotiable paper documents (such as bills of lading) from commercial practices.

- Promotion of commercial practices which do not require the use of negotiable documents in international trade.

- If appropriate, development of procedural rules or guidelines (acceptable to different commercial sectors) which, if implemented, would permit negotiability of electronic "documents" transferred in connection with international trade.

(d) International Trade - National Legal and Commercial Practice Barriers

38. The objective of the project is to mandate one or more reports, studies or analyses, designed to:

- "Identify existing legal and commercial practice barriers (including the application of international conventions).

- Monitor on-going responsive efforts to eliminate such barriers, and evaluate and make suggestions regarding particular solutions as to their utility for other nations and with recognition of the importance [of] Customs laws and practices to international trade and payments transactions, and because of the regulatory control customs experience, particular attention should be given to customs laws and practices.

- Provide information and analysis of benefit to other international organisations considering law reform or changes in customs and practices (e.g. UNCITRAL and ICC)."

39. In order to achieve the above stated objective, the Working Party has decided to:

- "Develop a questionnaire available for use by participating members of the Working Party as a format for analyzing, and reporting upon, national barriers which may exist with respect to the use of

electronic data interchange and similar technologies to facilitate international trade. Such barriers may be statutory or regulatory, may arise in case law or may be the result of customs and practices within the industry or community.

- Receive responses and prepare analytical reports, including recommendations with respect to barriers to international trade facilitated through the use of electronic data interchange and related technologies."

(e) Electronic authentication; defining electronic messages and their "signatures"

40. The objective of the project is:

"To secure for electronic messages and 'signatures' the same legal and commercial acceptability as is currently given to paper documents."

41. In order to achieve that objective, the Working Party has decided to:

"develop, for possible adoption at the national level, uniform definitions of 'writing', 'document', 'signature' and other appropriate terms which will include messages transmitted by electronic data interchange and related procedures for authenticating, in both legal and commercial contexts, those messages and establishing appropriate security therefor."

(f) Coordination with other bodies

42. The objective of the project is:

"to ensure coordination of work among WP.4 and other international bodies, including within the United Nations, with respect to the commercial and legal aspects of facilitating international trade."

43. In order to achieve that objective, the Working Party has decided to:

"provide on-going reports to the Working Party on related projects and activities of other international organizations and bodies, and assure adequate coordination with respect to the performance of the projects contained within the action programme."

44. At the meeting of the Working Party where the programme of work was adopted, the representative of the UNCITRAL Secretariat recalled the general mandate given to the Commission by the General Assembly to coordinate developments on international trade law issues. He also suggested that some results of the work to be undertaken in the Working Party's action programme might usefully be taken up by UNCITRAL and that, should any legal drafting be needed as a result of that work, it would more appropriately be dealt with within the framework of an UNCITRAL working group than in the Working Party.

C. International Chamber of Commerce (ICC)

45. In 1990, the ICC decided to create a "Joint Working Party on Legal and Commercial Aspects of EDI". The mandate given to that Working Party is to study the work undertaken on legal issues by other organizations such as the TEDIS Group, UN/ECE WP.4, UNCITRAL and The International Data Exchange

Association (IDEA), with a view to establishing "common positions which can then be presented to the relevant governmental and private sector organizations". The Working Party was also created to "monitor EDI developments, providing the impetus to address issues critical to global business practices, through close liaison with other EDI organizations." 8/

46. The first meeting of the Joint Working Party was held in December 1990. It was decided to create a Legal Committee for the purpose of investigating the legal issues involved in EDI. The Legal Committee was also entrusted with the task "to decide to what extent the ICC would support the various international legal efforts, and also, what work in the form of Uniform Rules, Model Contracts or Legal Guides the ICC should produce." 9/

47. The Secretariat of UNCITRAL was represented at that meeting and briefly summarized work undertaken by the Commission in the field of electronic funds transfers, the legal value of computer records and its preparatory work on EDI. It was stated by the chairman of the Joint Working Party that a "point of no return" was being reached "with respect to out-moded national legislation" and that it might "indeed be time for international organizations to recommend that certain specific national laws be modified, and to indicate how these changes might be made." 10/

48. At a meeting held in April 1991, the ICC Joint Working Party recalled that it was "unfortunate that national law in many states still requires manually-signed paper documents for certain legal transactions". It was also noted that:

> "The various EDI organizations, recognizing that firms desire a solid legal foundation for EDI practices, should work together to provide the business community with sufficient legal tools, studies and counselling, especially as regards the need for a clear and universally-recognized Standard Interchange Agreement." 11/

D. International Rail Transport Committee (CIT)

49. The railway industry and other transport enterprises covered by the Convention concerning International Carriage by Rail (COTIF) and more particularly by the Uniform Rules concerning the Carriage of Goods by Rail (CIM) have undertaken to replace the paper-based rail consignment note provided for in the CIM Rules by an electronic document. The new system, named DOCIMEL (Electronic CIM Document), is intended to be ready for implementation in 1993.

50. The CIT has published a preliminary Report entitled "DOCIMEL Rapport de base droit" (March 1991), which lists a number of legal issues to be solved by the railway industry. The Report mentions some issues related to contract law, such as formation of the transport contract, modification of the contract during the transport, obstacles to the transport or delivery of the goods and claims relating to the goods. Some specific issues of "electronic law" are also listed, such as data protection, data recording, evidential value of data, storage and liability. The Report mentions the UNCID Rules and a number of model interchange agreements as being taken into account in the legal thinking carried out by the CIT.

51. The Secretariat will closely monitor the legal developments of that project.

E. International Road Transport Union (IRU)

52. The IRU is also undertaking the preparation of a standard EDI agreement for use between enterprises in the road transportation industry and users of road transportation services. Preliminary studies involve the drafting of a comparative study of legislation in all Member States to the Convention on the Contract for the International Carriage of Goods by Road (CMR) and only once that study is completed will a draft communication agreement be prepared.

53. The Secretariat will also monitor the legal developments of that project.

F. International Maritime Committee (CMI)

54. At its thirty-fourth Conference (Paris, June 1990), the CMI adopted the text of "The CMI Rules for Electronic Bills of Lading" (see A/CN.9/333, para. 89), hereinafter referred to as the CMI Rules (see para. 69 and paras. 104 to 108, below). It is recalled in the introduction to those Rules that non-negotiable sea waybills should be preferred to negotiable bills of lading and that "non-negotiable sea waybills could easily be replaced by messages sent between the interested parties by electronic means". 12/ However, it is also noted that the electronic bill of lading would play an important function as regards the commodities that are sold in transit.

G. The Report of the "Observatoire juridique des technologies de l'information" (France).

55. The French Government mandated a study on the French law of evidence and the manner in which it would need to be modified (or affirmed) in order to accommodate the development of paperless legal relationships. The results of that study were published at the end of 1990 by the Observatoire juridique des technologies de l'information (OJTI) in a report entitled "Une société sans papier ?" (hereinafter referred to as the OJTI Report). 13/ The scope of the OJTI Report is not limited to trade law aspects and not even limited to EDI issues. It also encompasses issues and concerns that are typical of electronic messaging applied to consumer transactions. Although it is based upon consideration of the existing rules in one legal system only, some of its general conclusions are worth being mentioned in the present document. The OJTI Report is a useful attempt by a government to determine what changes should be made in the statutory law of evidence in order to accommodate future developments of electronics. In that respect, it can be compared to somewhat similar studies in other countries that were carried out in other types of body (e.g. trade facilitation bodies, bar associations).

56. In its conclusions, the OJTI Report does away with the widespread concern that EDI might be developing in a statutory vacuum as concerns the rules on evidence. It notes that, although there are very few statutory rules specifically designed to deal with evidence in an EDI context, 14/ the question of the evidentiary value of EDI messages is indirectly addressed in general rules on evidence, some of which have been slightly amended with a view to accomodating some EDI-related concerns.

57. A significant example of such a general statute in France is the 1980 Statute on evidence of legal acts (Loi du 12 juillet 1980 relative à la preuve des actes juridiques). The 1980 statute was intended to give legal recognition to new modes of evidence and particularly to photographic

documents and microforms of original paper documents. It was also interpreted by legal writers as making computer records admissible as evidence. Such an interpretation was drawn from the new text of Article 1348 of the Civil code that gives evidentiary value to copies where the original is no longer available and where the copy is "not only accurate but also durable" ("fidèle" et "durable"). The statute indicates that "any indelible reproduction of the original, affixed on a support in such a way that it irreversibly modifies that support, is deemed to be durable". That provision was undoubtedly designed to encompass situations where a copy is stored in the form of electronic data, while the paper original is destroyed. However, it must be pointed out that in 1980 very few electronic devices were likely to meet the requirement that "the support be modified in a non-reversible way". Eleven years later, although the technique of digital recording has made significant progress and made available systems known as "WORM" (write once, read multiple), most electronic supports still do not meet that condition.

58. As regards case law, the OJTI Report notes that very few cases have actually been brought before the courts. It may be recalled that a similar finding was contained in the American Bar Association (ABA) Report on Electronic Commercial Practices discussed in the report submitted to the twenty-third session of the Commission (see A/CN.9/333, para. 44). A reason for the absence of case law may lie in the fact that EDI is currently used mainly between trading partners with a long-term relationship. In such a context, litigation may be viewed as a wasteful means to resolve disputes. The ABA Report also insists on the fact that litigation and legal solutions that might be expected from the courts are seen by EDI users as excessively unpredictable. Parties to EDI relationships therefore tend to use contractual solutions to solve their possible disputes.

59. As regards specific communications agreements that may be entered into by parties, the OJTI Report notes that, although many such agreements have already been developed in France, there is no indication that one single contractual framework is going to prevail. An obvious reason for the variety of contractual patterns is that such agreements are "tailored" to fit the various needs of the user groups they apply to. Although the use of such agreements is not discouraged by the OJTI Report, a concern is expressed about the risk of incompatibilities between the different legal situations resulting from different agreements. Another major concern expressed in the OJTI Report is that communications agreements should not alter the balance of power between parties of uneven economic importance to the detriment of the weaker party. Again, it may be noted that a similar concern had been expressed in the ABA Report 15/ and had strongly influenced the drafting of the ABA Agreement.

60. As regards the changes to be brought to the statutory law of evidence, the first recommendation of the OJTI Report is that no attempt to change legislation should be undertaken until more is known about the conditions upon which electronic messages and records created with a view to carry evidential value will be admitted as evidence by courts under the current legislation. It is also suggested that legislative changes should not be made before more is known about the policy decisions that are expected from international organizations. Another suggestion is that no changes should be made as regards the fundamental legal principles on evidence. According to the report, those fundamental principles should be reaffirmed with particular emphasis on the responsibility of the party who controls the system. The OJTI Report notes that, since further technological changes are likely to take place in the near future, no attempt should be made to draft a "technological

statute" where legally acceptable means of communication would be defined by reference to technical standards.

II. INTERCHANGE AGREEMENTS

61. With a view to overcoming what may currently be considered as insufficiencies and uncertainties of statutory law and case law regarding EDI, contractual interchange agreements have been and are currently being developed in various sectors of business activity (see A/CN.9/333, paras. 87 to 89). Such contractual developments are particularly important when they set up rules regarding evidence in an EDI environment.

62. Various conceptions of a model agreement for the implementation of EDI between trading partners are reflected in the various agreements that have been examined by the Secretariat. These model agreements also reflect the variety of needs faced by various categories of EDI users or potential users. However, it may be noted that many among these model agreements share a number of characteristics and that most of them make express or implicit reference to the UNCID Rules (see A/CN.9/333, paras. 82 to 86).

63. The number of available model agreements and other models of contractual arrangements is rapidly increasing in the EDI community. A considerable number of such model agreements have been and are currently being developed at various levels, whether by international organizations, national trade facilitation bodies or private institutions. Some such model agreements are drafted with a view to respond to the needs of international trade, others are intended to be used in a purely national context. Another distinction can be drawn between the model agreements which address the legal issues of EDI in general and those which are limited to some specific legal issues. Obviously not all such existing documents have come to the attention of the Secretariat. Moreover, those model rules and agreements which have been taken into consideration for the drafting of the present Report are of somewhat heterogenous natures. It must also be pointed out that some among the few interchange agreements that were drafted specifically for international use are not yet available in their final form (see para. 64, below). It is therefore suggested that, at this stage, the Commission might not be in a position to undertake an exhaustive comparative study of the contents of such agreements. Only a brief overview of some contractual arrangements is provided in the present Report, with a view to indicate to the Commission what legal issues are likely to be addressed of within a contractual framework, the extent of the need for such communications agreements and the limits of contractual law in the field of EDI.

64. The main interchange agreements and guidelines for EDI commercial relationships that were studied by the Secretariat are the twelve following:

Model agreements prepared for national use:

- The "EDI Association Standard Electronic Data Interchange Agreement" (hereinafter referred to as the UK-EDIA Agreement) prepared by the EDI Association of the United Kingdom (2nd Edition, August 1990);

- The "Model Electronic Data Interchange Trading Partner Agreement" (hereinafter referred to as the ABA-Agreement) prepared by the American Bar Association (June 1990);

- The model EDI interchange agreement (hereinafter referred to as the CIREDIT Agreement) prepared by the Centre International de Recherches et d'Etudes du Droit de l'Informatique et des Télécommunications (France, 1990);

- The "Standard EDI Agreement" (hereinafter referred to as the NZEDIA Agreement) prepared by the New Zealand Electronic Data Interchange Association (New Zealand, 1990);

- The "Electronic Data Interchange Trading Partner Agreement" (hereinafter referred to as the EDICC Agreement) prepared by the EDI Council of Canada (Canada, 1990);

- The standard interchange agreement (hereinafter referred to as the Quebec Agreement) prepared by the Ministry of Communications of the Province of Quebec (Canada, 1990);

- The draft model interchange agreement (hereinafter referred to as the draft SITPROSA Agreement) prepared by the Organization for Simplification of International Trade Procedures in South Africa (March 1991);

International model agreements covering the issues of EDI in general:

- The draft "TEDIS European Model EDI Agreement" (hereinafter referred to as the draft TEDIS Agreement) prepared by the Commission of the European Communities (December 1990);

- The "Model Agreement on Transfer of Data in International Trade" (hereinafter referred to as the FINPRO/CMEA Agreement) agreed upon by the Republic of Finland and CMEA Member States (1991);

International model agreements limited to some specific legal issues:

- The draft "Guideline Concerning Customs-Trader Data Interchange Agreements and EDI User Manuals" (hereinafter referred to as the draft CCC Guidelines) prepared by the Customs Co-operation Council (March 1990); 17/

- The Guidelines for Interchange Agreements (hereinafter referred to as the ODETTE Guidelines) prepared by the Organization for Data Exchange through Teletransmission in Europe (1990);

- The "CMI Rules for Electronic Bills of Lading" adopted by the International Maritime Committee (CMI) in June 1990 (see para. 54, above).

65. Those various model rules take different stands as regards the legal issues related to the formation of contracts by electronic means that were considered in the preliminary study by the Secretariat (A/CN.9/333). In addition, their structure often reflects the different legal systems they originated from.

66. It must be noted, however, that all those model agreements, rules and guidelines are of a contractual nature and can be brought into force only by consent of the contracting parties. A clear expression of that characteristic is contained in Article 1 of the CMI Rules ("These rules shall apply whenever the parties so agree"). That situation raises difficulties where the

applicable law would not allow the parties to deviate from provisions of statutory law. However, the main difficulty results from the fact that provisions of a contract cannot regulate the rights and obligations of persons who are not parties to that contract. Contractual provisions can be appropriate and even necessary to solve the legal issues of communication through EDI within a closed network but they are unlikely to regulate the same issues when they will arise in an open environment. Contractual solutions to the legal issues of EDI are therefore to be considered as a first step that can help to resolve many of the present practical difficulties and to better understand the questions that will require the preparation of future legal instruments.

A. The requirement of a writing

67. In many cases, model agreements contain provisions aimed at overcoming possible difficulties that might arise concerning the validity and enforceability of legal acts (particularly contracts) due to the fact that they are formed through an exchange of EDI messages instead of the usual written documents. It may be noted that no such contractual stipulation attempts to address those categories of contracts which, under certain legal systems, are required to be made in a specific form, generally a written document authenticated by a public authority (see A/CN.9/333, paras. 23 to 25). Regarding commercial contracts, several model agreements examined by the Secretariat take one or both of the two following approaches to deal with the legally binding value of EDI messages.

1. Definition of EDI messages as written documents

68. The authors of many model agreements felt a need to state, through various definitions, that EDI messages and paper documents were to be put on an equal footing. This was sometimes described as a "definition strategy" 17/ aimed at establishing the legal significance of EDI messages.

(a) General definition of EDI as paper

69. The broadest reliance on general definitions is probably to be found in the CMI Rules. For example, Article 4(d) provides that most of the information contained in a receipt message, including description of the goods, date and place of receipt of the goods, date and place of shipment of the goods and reference to the carrier's terms and conditions of carriage, "shall have the same force and effect as if the receipt message were contained in a paper bill of lading". Several other references to paper are made in those Rules with a view to treating the parties to an EDI relationship "as if a paper bill of lading" had been issued. This is for example the approach in Article 6, on applicable law, and Article 7, on the right of control and transfer of the goods. Even more explicit are Articles 10 and 11, respectively entitled "Option to receive a paper document" and "Electronic data is equivalent to writing".

(b) Definition of legally significant EDI communication

Legal effect of EDI messages

70. The model agreements often contain a provision stating the conditions under which EDI messages will have legally binding effect on the parties. For example, Article 3.3.2. of the ABA Agreement states that:

> "Any Document properly transmitted pursuant to this Agreement shall be considered ... to be a 'writing' or 'in writing'; and any such Document when containing, or to which there is affixed, a Signature ('Signed Documents') shall be deemed for all purposes (a) to have been 'signed' and (b) to constitute an 'original' when printed from electronic files or records established and maintained in the normal course of business".

In that example, it may be noted that the concept of 'Signed Document' has been drafted against the background of local law, namely Section 2-201 of the Uniform Commercial Code, which states that certain contracts for the sale of goods are "not enforceable" unless there is "some writing sufficient to indicate that a contract for sale has been made between the parties and signed by the party against whom enforcement is sought".

71. A somewhat similar approach is taken by the draft SITPROSA Agreement (Article 12), which states that: "Each party guarantees that every Trade Data Message (TDM) originating from the EDI Network under its control will be binding upon it". Along the same lines, the FINPRO/CMEA Agreement (Article 8) reads as follows:

> "When using electronic data interchange the legal bondage of documents is dependent on the legality of original documents and that deed is legally sound".

72. Provisions recognizing the legal effect of EDI messages are also to be found in the CIREDIT Agreement (Article 2) and the Quebec Agreement (Article 6.3.(1)).

Legal effect of contracts made through EDI

73. Some model agreements expressly state that contracts formed by means of an exchange of electronic data are legally valid. This is for example the approach taken in the draft TEDIS Agreement (Article 10.1.), which states that: "The parties accept that transactions are validly formed by exchange of EDI messages". Such a provision establishes a distinction between the issue of the validity of the contract and that of its evidential value, which is addressed by the draft TEDIS Agreement under the general heading of "the evidential value of EDI messages" (see para. 80, below).

74. It may be noted that not all model agreements address as separate issues the validity of contracts formed through an exchange of EDI messages, as does the draft TEDIS Agreement quoted above, and the enforceability of such contracts (or other legal acts formed by means of EDI messages). This situation reflects the different approaches taken by national legal systems and the different legal drafting practices. Most legal systems provide different sets of rules to determine whether a contract is created and valid and to determine how the existence and contents of that contract can be evidenced in court. However, some legal systems tend to emphasize that the enforceability of a contract is normally a consequence of its being validly created. Other legal systems concentrate more on the fact that a contract is practically made enforceable through admissible evidence of its content. Model agreements drafted for use in such countries therefore provide rules on enforceability that mainly deal with the admissibility of evidence in court and a number of other rules intended to give weight to such evidence of legal acts formed through EDI.

75. As an example of a model agreement that deals mainly with the enforceability of contracts by providing rules on evidence, the EDICC Agreement (Article 6.04 "Enforceability") reads as follows:

> "The parties agree that as between them each Document that is received by the Receiver shall be deemed to constitute a memorandum in writing signed and delivered by or on behalf of the Sender thereof for the purposes of any statute or rule of law that requires a Contract to be evidenced by a written memorandum or be in writing, or requires any such written memorandum to be signed and/or delivered."

76. Another example of a provision on the legal effect of contracts made through EDI, with reference to local rules of law, is to be found in the ABA Agreement (Article 3.3.3.), which reads as follows:

> "... the use of Signed Documents properly transmitted pursuant to this Agreement, shall, for all legal purposes, evidence a course of dealing and a course of performance accepted by the parties ...".

In that example, reference is made to the national rules of the Uniform Commercial Code (see para. 70, above), namely to Section 1-205, which states that a "Course of dealing" of the parties to a particular transaction is "to be regarded as establishing a common basis of understanding for interpreting" their expressions and other conduct. Reference is also made to Section 2-208, which states that "any course of performance accepted or acquiesced in without objection shall be relevant to determine the meaning of the agreement".

2. Renunciation of rights in relation to EDI communication

77. The second approach, which may be described as a "waiver strategy", relies upon a mutual renunciation by the parties of the rights or claims they might have to contest the validity or enforceability of an EDI transaction under possible provisions of locally applicable law. 18/ To that effect, the ABA Agreement (Article 3.3.4.), making reference to legal rules on evidence that require certain contracts to be evidenced in writing, provides that:

> "The parties agree not to contest the validity or enforceability of Signed Documents under the provisions of any applicable law relating to whether certain agreements are to be in writing or signed by the party to be bound thereby. Signed Documents, if introduced as evidence on paper in any judicial, arbitration, mediation or administrative proceedings, will be admissible as between the parties to the same extent and under the same conditions as other business records originated and maintained in documentary form. Neither party shall contest the admissibility of copies of Signed Documents under either the business records exception to the hearsay rule or the best evidence rule on the basis that the Signed Documents were not originated or maintained in documentary form."

The EDICC Agreement (Article 6.04) states that:

> "Each party acknowledges that in any legal proceedings between them respecting or in any way related to a Contract it hereby expressly waives any right to raise any defence or waiver of liability based upon the absence of a memorandum in writing or of a signature".

78. The draft TEDIS Agreement (Article 10.1.), making reference to the possible invalidity of a contract contains a slightly different provision according to which:

> "The parties ... expressly waive any rights to bring an action declaring the invalidity of a transaction concluded between themselves on the sole ground that the transaction arises from the operation of an information system".

3. Evidential value of EDI messages

(a) Contractual rules on admissibility of evidence

79. In earlier days, controversies arose about the validity of privately agreed standards on admissibility of evidence in case of litigation. It now seems to be widely conceded that under both common law and civil law systems, such private commercial agreements on admissibility of evidence are valid or, at least, that they are not faced with a general prohibition.

80. The draft TEDIS Agreement (Article 11) reads as follows:

> "In the event of litigation, the parties shall not bring into question the admissibility as evidence of messages exchanged and stored according to the provision of this Agreement".

81. The EDICC Agreement (Article 7.04), relying upon its definition of a "Transaction Log" as "the record of all Documents and other communications exchanged between the parties via the EDI Network" states that:

> "Each party hereby acknowledges that a copy of the permanent record of the Transaction Log certified in the manner contemplated by this Agreement shall be admissible in any legal, administrative or other proceedings between them as prima facie evidence of the accuracy and completeness of its contents in the same manner as an original document in writing, and each party hereby expressly waives any right to object to the introduction of a duly certified permanent copy of the Transaction Log in evidence".

82. Provisions to the same effect are to be found in the Quebec Agreement (Article 6.3.(2)) and the draft SITPROSA Agreement (Article 18). Along the same lines, the ODETTE Guidelines (Clause 8) read as follows:

> "The parties shall, in case of litigation between them or otherwise, not challenge the admissibility as evidence of a log, such as the one referred to in Clause 6, in whatever form it may be presented".

83. Whichever wording is used in contractual arrangements on admissible evidence between parties to an EDI communications agreement, it must be noted that a communications agreement cannot be used as a method to solve the problems related to evidence of EDI transactions as regards third parties to that agreement. That difficulty is particularly obvious where national legislation requires a writing to be made for accounting or tax purposes or any other regulatory purpose and where the third party is a public administration (see A/CN.9/333, paras. 38 to 41). However, it may be noted that the difficulty has already been solved in some practical situations by way of special agreements, permission or tolerances granted by public authorities permitting accounting and other records to be kept on computers.

There also exist cases where the difficulty is addressed in specific statutory provisions. The same difficulty regarding the rights and obligations of third parties is also likely to arise in the commercial field where contracts have to be formed between trading partners that are parties to different EDI network systems. Commercial situations involving different EDI networks will undoubtedly become more frequent in the future as EDI becomes a more widespread technique and evolves from closed networks to a more open environment particularly through the use of integrating systems 19/ that bring different EDI networks into contact.

(b) The requirement of an original

84. Under many legal systems, it has been a general rule of evidence that documents and other records had to be presented to a court in their original form so as to assure that the data presented to the court was the same as the original data (see A/CN.9/265, paras. 43 to 48). Several model agreements set forth a contractual definition of an original document, following the "definition strategy" adopted to do away with the requirement of a writing. For example, the ABA Agreement (Article 3.3.2.) reads as follows:

> "('Signed Documents') shall be deemed for all purposes ... to constitute an 'original' when printed from electronic files or records established and maintained in the normal course of business."

Following a similar pattern, the CIREDIT Agreement (Article 2) contains a provision to the effect that parties "shall consider the EDI documents they exchange as original documents". A provision to the same effect is also contained in the EDICC Agreement (Article 7.04) and in the Quebec Agreement (Article 6.3.).

85. It may be noted that, at least in one civil law country, legal writers have expressed doubts as to whether a contractual definition of an original could validly deviate from a statutory provision listing a limited number of circumstances where a copy could be substituted to the normally required original with the same evidential value. 20/

(c) Authentication of EDI messages

86. The issue of authentication of documents is addressed in most model agreements. It may be recalled (see A/CN.9/333, paras. 50 to 59) that a number of techniques have been developed to authenticate electronically transmitted documents. As regards identification of the transmitting machines, telex and computer-to-computer telecommunications often employ call-back procedures and test keys to verify the source of the message. Techniques combining several keys can be used as a means of identifying the operator of the sending machine.

87. A variety of model clauses on verification of the identity of the sender and of the integrity of the message may be found. For example, the ABA Agreement (Article 1.5.) states that:

> "Each party shall adopt as its signature an electronic identification consisting of symbol(s) or code(s) which are to be affixed to or contained in each Document transmitted by such party ("Signatures"). Each party agrees that any Signature of such party affixed to or contained in any transmitted Document shall be sufficient to verify such party originated such Document."

It may be noted that this provision is written against the background of the Uniform Commercial Code (Article 1-201), which provides a definition of "signature".

88. The draft TEDIS Agreement (Article 7.2.) refers to a concept of "message verification" which seems to encompass both the identification of the sender and the verification of the contents of the message. It reads as follows:

> "In addition to the elements of control relevant for EDI messages provided by UN/EDIFACT, the parties shall agree on procedures, means or methods to ensure message verification. Message verification includes the identification, authentication, verification of the integrity of a message as well as non-repudiation, by use of a digital signature or any other means or procedures to establish that a message is genuine. ..."

89. As concerns the issues of authentication, it is clear that the legal reliability of EDI techniques requires that high standards be implemented achieving legal certainty as to the identity of the sender, its level of authorization and the integrity of the message. However, it must be pointed out that the various authentication methods available involve very different costs. A prompt and reliable acknowledgement that a message has been received is possible for an insignificant cost. At some greater cost, resulting from more extensive computer processing, it is possible to verify that the message has been received intact without communication errors. At a still greater cost, encryption techniques are available that permit, in a single operation, the verification of both the non-alteration of the message and the certain identity of the sender. It may therefore be suggested that, when implementing an EDI communications agreement for their trade relationship, parties should ensure that all verification methods are adequate and that the costs involved are reasonable, given the nature of the messages that are actually exchanged. Such a reference to the reasonableness of the verification methods is rarely found in model agreements. However, it appears in a provision of the ABA Agreement (Article 1.4.) on a different issue, concerning the obligation of each party to verify that the sender of the message was properly authorized. The Article reads as follows:

> "Each party shall properly use those security procedures ... which are reasonably sufficient to ensure that all transmissions of Documents are authorized and to protect its business records and data from improper access.

The UK-EDIA Agreement (Article 4.2) and the NZEDIA Agreement (Article 4.2) also take into account the possible wish of the parties to agree on different levels of authentication to verify "the Message" or "the completeness and authenticity of the Message".

(d) Evidential value of computer records

90. Almost all model agreements contain a provision according to which parties are obliged to keep a record or "log" of EDI messages. In order to solve the questions of the legal recognition of computer records, a number of communications agreements provide that the recording methods used should preserve both sent and received messages in their original format, that they should provide a chronological record of messages sent or received and that they should ensure that the recorded EDI messages are accessible in a human readable form, for example through a printing device.

91. Provisions concerning the obligation to keep a data log may be found in the EDICC Agreement and in the ODETTE Guidelines (see paras. 81 and 82, above), the UK-EDIA Agreement (Article 7), the NZEDIA Agreement (Article 7), the CIREDIT Agreement (Article 7), the FINPRO/CMEA Agreement (Article 6). As an example of such a provision, the draft TEDIS Agreement (Article 8) reads as follows:

> "8.1. Each party will keep a complete and chronological record, the 'data log', to store all EDI messages sent and received in their original transmitted format.
>
> 8.3. In addition to any relevant national legislative or regulatory requirements, when the data log is maintained in the form of electronic or computer record, the parties shall ensure that the recorded EDI messages are readily accessible and that they are readable and, where necessary, able to be printed."

B. Other legal issues related to the formation of contracts

1. Acknowledgement of receipt of messages

92. Most model rules and communication agreements include special provisions requiring systematic use of "functional acknowledgements" (see A/CN.9/333, paras. 48 and 49). Acknowledgement of receipt of a message merely confirms that the message is in the possession of the receiving party and is never to be confused with any decision on the part of the receiving party as to agreement with the content of the message.

2. Consent, offer and acceptance

93. Provisions on offer and acceptance are not very common in existing model agreements. However, such a provision may be found in the EDICC Agreement (Article 6.02) which reads as follows:

> "Notwithstanding any provision in the Supply Agreement to the contrary, the transmission and receipt of all Documents constituting a Contract shall constitute an offer to acquire or supply the products or services specified therein and an acceptance of such offer."

That provision is not to be confused with other provisions on acknowledgement of receipt of messages (see para. 92, above). The official comment (see TRADE/WP.4/R.732, p. 14) makes it clear that the provision is included in the Model Agreement so that the parties' use of the EDI Network to send promotional, product service, pricing or other non-contractual information does not have unintended legal effects or consequences. Article 6.02 provides that unless the data are presented in the form technically required to qualify them as a Document, they remain at the level of "commercial" messages, which are not intended to have legal effect.

94. As a matter of principle, the questions of offer and acceptance may be of particular importance in an EDI context since EDI creates new opportunities for the automation of the decision-making process (see A/CN.9/333, paras. 60 to 64). Such automation may increase the possibility that, due to the lack of a direct control by the owners of the machines, a message will be sent, and a contract will be formed, that does not reflect the actual intent of one or more parties at the time when the contract is formed. Automation also increases the possibility that, where a message is generated that does not reflect the sender's intent, the error will remain unperceived both by the sender and by the receiver until the mistaken contract has been acted upon. The consequences of such an error in the generation of a message might therefore be greater with EDI than with traditional means of communication.

3. General conditions

95. It may be recalled (see A/CN.9/333, paras. 65 to 68) that the major problem regarding general conditions in a contract is to know to what extent they can be asserted against the other contracting party. In many countries, the courts will consider whether it can reasonably be inferred from the context that the party against whom general conditions are asserted has had an opportunity to be informed of their contents or whether it can be assumed that the party has expressly or implicitly agreed not to oppose all or part of their application.

96. EDI is not equipped, or even intended, to transmit all the legal terms of the general conditions that are printed on the back of purchase orders, acknowledgements and other paper documents used by trading partners. A solution to that difficulty is to incorporate the standard terms in the communications agreement concluded between the trading partners. As an example of such a provision, the EDICC Agreement (Article 6.03) states that:

> "Each Contract formed between the parties shall comprise the Documents received via the EDI Network and shall incorporate and be subject to the provisions of this Agreement and the Supply Agreement. ..."

The official comment explains that:

> "Before entering into this Agreement, the parties will typically have recorded their terms of dealing in a master agreement, or by the exchange of standard form contracts. If a dispute had arisen then concerning the terms and conditions of their contracts the court or arbitrator would have attempted to resolve it by reference to those standard forms. This optional provision should be used by parties who attach old standard forms [to the contracts they enter into by electronic means]. The intended result is that their legal position is not affected by the change to EDI as a medium of communication. Whenever practicable, however, the parties should attempt to reconcile the terms and conditions of their Contracts into a single master agreement which they sign. Not only will that assist in resolving disputes, it very likely will prevent many potential grounds for dispute ever causing problems for the parties."

4. Time and place of formation of contract

97. Parties to a contract have a practical interest in knowing where and when the contract is formed. When the contract is formed, the parties become bound by the legal obligations they have agreed upon and the contract may start producing effects. In different legal systems, the time when the contract is formed may determine such issues as the moment when the offeror is no longer entitled to withdraw his offer and the offeree his acceptance; whether legislation that has come into force during the negotiations is applicable; the time of transfer of the title and the passage of the risk of loss or damage in the case of the sale of identified goods; the price, where it is to be determined by market price at the time of the formation of the contract. In some countries, the place where the contract is formed may also be relevant for determining the applicable customary practices; the competent court in case of litigation; and the applicable law in private international law (see A/CN.9/333, para. 69).

98. When dealing with the issue of time and place of formation of contracts in the context of EDI relationships, the parties may often have an opportunity to choose between the dispatch rule and the reception rule, which are the two solutions most commonly found in existing legal systems (see A/CN.9/333, paras. 72 to 74). Indeed, that question is one of the important issues that may generally be settled in a communication agreement, in the absence of mandatory provisions of statutory law.

99. A provision on the place and time of formation of contracts may be found, for example in the draft TEDIS Agreement (Article 10.2.), which reads as follows:

> "As far as the formation of a contract is concerned, a contract by EDI is deemed to be concluded at the time and place where the EDI message constituting the acceptance of an offer is made available to the information system of the recipient (reception rule)."

100. A provision to the same effect exists in the EDICC Agreement, which defines "proper receipt" and legal effectiveness of EDI messages as follows:

> "A Document shall be deemed to have been properly received when it is accessible to the Receiver at its Receipt Computer. No Document shall be of any legal effect until it is received."

5. Liability for failure or error in communication

101. A question that is not directly related to the formation of contracts but that needs to be addressed within the contractual framework of an EDI relationship is the determination of which party is to bear the risk of a failure in communication of an offer, acceptance or other form of communication intended to have a legal effect, such as an instruction to release goods to a third party. It may be noted that model agreements generally address both cases of failure to communicate and of error in communication under the same provision.

102. The draft TEDIS Agreement (Article 12) reads as follows:

> "Each party shall be liable for any direct damage arising from or as a result of any deliberate breach of this agreement or any failure, delay or error in sending, receiving or acting on any message. Neither party shall be liable to the other for any incidental or consequential damage arising from or as a result of any such breach, failure, delay or error.
>
> The obligations of each party imposed by this EDI agreement shall be suspended during the time and to the extent that a party is prevented from or delayed in complying with that obligation by force majeure.
>
> Upon becoming aware of any circumstance resulting in failure, delay or error, each party shall immediately inform the other party(ies) hereto and use their best endeavours to communicate by alternative means".

103. A somewhat different approach is taken in the draft SITPROSA Agreement (Article 16), which reads as follows:

> "16.1 The risk and liability for any faulty transmission and the resulting damages rests with the Sender:

a. subject to the exceptions described in clause 16.2; and

b. subject to the condition that the Sender will not be liable for any consequential damages other than those for which he would be liable in the case of a breach of contract in terms of the Main Contract or which have been specifically agreed to.

16.2 Although the Sender is responsible and liable for the completeness and accuracy of the TDM [Trade Data Message], the Sender will not be liable for the consequences arising from reliance on a TDM where:

a. the error is reasonably obvious and should have been detected by the Recipient;

b. the agreed procedures for authentication or verification have not been complied with".

6. Documents of title

104. The specific issues of the negotiable bill of lading are addressed in the CMI Rules. Discussions are also taking place within WP.4 with a view to defining some form of an "electronic bill of lading". Two questions arise concerning negotiable documents in an EDI environment. The first question is whether negotiability and other characteristics of documents of title can be accommodated in an electronic context. The second question is whether the issues of documents of title can be addressed within the framework of a contract or any other optional arrangement or whether statutory law is needed.

105. The CMI Rules envisage a system which preserves the function of negotiability in the electronic bill of lading through the use of a secret code ("private key") by the carrier. Article 7 ("Right of control and transfer") reads as follows:

"a. The Holder is the only party who may, as against the carrier:

i. claim delivery of the goods;
ii. nominate the consignee or substitute a nominated consignee for any other party, including itself;
iii. transfer the Right of Control and Transfer to another party;
iv. instruct the carrier on any other subject concerning the goods, in accordance with the terms and conditions of the Contract of Carriage, as if he were the holder of a paper bill of lading.

b. A transfer of the Right of Control and Transfer shall be effected:

i. by notification of the current Holder to the carrier of its intention to transfer its Right of Control and Transfer to a proposed new Holder; and
ii. Confirmation by the carrier of such notification message; whereupon
iii. the carrier shall transmit the information as referred to in article 4 (except for the Private Key) to the proposed new Holder; whereafter

iv. the proposed new Holder shall advise the carrier of its acceptance of the Right of Control and Transfer; whereupon

v. the carrier shall cancel the current Private Key and issue a new Private Key to the new Holder.

c. If the proposed New Holder advises the carrier that it does not accept the Right of Control and Transfer or fails to advise the carrier of such acceptance within a reasonable time, the proposed transfer of the Right of Control and Transfer shall not take place. The carrier shall notify the current Holder accordingly and the current Private Key shall retain its validity.

d. The transfer of the Right of Control and Transfer in the manner described above shall have the same effect as the transfer of such rights under a paper bill of lading."

Article 8 ("Private key") reads as follows:

"a. The Private key is unique to each successive Holder. It is not transferable by the Holder. The carrier and the Holder shall each maintain the security of the Private Key.

b. The carrier shall only be obliged to send a Confirmation of an electronic message to the last Holder to whom it issued a Private Key, when such Holder secures the Transmission containing such electronic message by the use of the Private Key.

c. The Private Key must be separate and distinct from any means used to identify the Contract of Carriage, and any security or identification used to access the computer network."

106. Another view on the questions raised by the documents of title in an EDI context favours the use of non-negotiable transport documents. That view is reflected, for example, in the first draft of a policy statement by the ICC which states that:

"Many of the perceived legal "obstacles" to the use of EDI are not true obstacles, rather they are long-standing commercial habits which must be broken if EDI is to be used to its maximum advantage. ... One example of a perceived obstacle is found in the common misconception that transactions involving negotiable documents represented by signed writings cannot be handled with EDI. They can, via the use of non-negotiable electronic messages." 21/

107. As to whether an electronic system providing negotiability of transport documents can function satisfactorily on a purely contractual basis, the question arises whether all the persons to whom the title to the goods in transit would currently be transmitted by use of a paper negotiable bill of lading would be willing or able to become parties to a contractual network arrangement that would regulate the rights and obligations of the parties to the transport operation itself. For those parties absent from the network arrangement at least, statutory law or an international convention seems to be needed.

108. A commentator on the subject noted that:

""Most probably the use of the negotiable transport document would diminish in the future. Commercial practice will prefer the

non-negotiable way-bill system or replace transport documents altogether by transferring the relevant information electronically. Be that as it may international commerce will have the same need to transfer legal rights from sellers to buyers in international contract of sale as previously. Is the only satisfactory solution to elaborate an international convention on transfer of title to goods in transit from one country to another? Most probably those questions will be the focus of attention from now on and during the rest of the present century." 22/

III. POSSIBLE WORK FOR THE COMMISSION

A. Standard communications agreement

109. It has been pointed out that numerous communications agreements or guidelines for the drafting of such agreements have already been and are currently being developed (see para. 63, above). It has also been pointed out that such documents vary considerably according to the various needs of the different categories of users they intend to serve. The variety of contractual arrangements has sometimes been described as hindering the development of a satisfactory legal framework for the business use of EDI. Nonetheless, the preliminary studies carried out by the Secretariat, which are summarized in A/CN.9/333 and in the present report, do not suggest that there is a need for all EDI relationships to develop along a strictly uniform legal pattern. Such uniformity is probably impossible to achieve, given the different types of business relationships that are and will be affected by EDI. However, the preliminary studies also suggest that there is a need for a general framework that would identify the issues and provide a set of legal principles and basic legal rules governing communication through EDI. Another conclusion from the preliminary studies is that such a basic framework can, to a certain extent, be created by contractual arrangements between parties to an EDI relationship. It apears that the existing contractual frameworks that are proposed to the community of EDI users are often incomplete, mutually incompatible, and inappropriate for international use since they rely to a large extent upon the structures of local statutory law.

110. It may be noted that, although many efforts are currently being undertaken by different technical bodies, standardization institutions and international organizations (see para. 64, above) with a view to clarifying the issues of EDI, none of the organizations that are primarily concerned with worldwide harmonization of legal rules has, as yet, started working on the subject of a communications agreement. The CMI Rules, which constitute a valuable attempt to introduce the electronic bill of lading, contain substantive provision addressing the issues of negotiability in an electronic environment, but they do not address all the legal issues stemming from communication of trading partners through EDI. The Commission of the European Communities, through the TEDIS programme, is developing a model agreement that will be of great regional interest but has not been designed for worldwide use.

111. With a view to achieving the harmonization of basic EDI rules for the promotion of EDI in international trade (see para. 3, above) the Commission may wish to consider the desirability of preparing a standard communication agreement for use in international trade. Work by the Commission in this field would be of particular importance since it would involve participation

of all legal systems, including those of developing countries that are already or will soon be confronted with the issues of EDI.

B. Other work

112. As was pointed out in several documents and meetings involving the EDI community, e.g. in meetings of the Working Party on Facilitation of International Trade Procedures (WP.4) of the United Nations Economic Commission for Europe, there is a general feeling that, in spite of the efforts made through the 1985 UNCITRAL Recommendation (see para. 2, above) and the 1979 ECE Recommendation (see A/CN.9/333, para. 51), little progress has been made to achieve the removal of the mandatory requirements in national legislation regarding the use of paper and handwritten signatures. It has been suggested by the Norwegian Committee on Trade Procedures (NORPRO) in a letter to the Secretariat that "one reason for this could be that the UNCITRAL Recommendation advises on the need for legal update, but does not give any indication of how it could be done". It may be recalled that the Working Party on Facilitation of International Trade Procedures (WP.4) of the United Nations Economic Commission for Europe, has decided to develop a questionnaire on the legal barriers to the use of EDI in different legal systems. The Secretariat will monitor that survey and report to the Commission for possible work to be undertaken on the subject.

113. Another suggestion for possible future work concerns the subject of the replacement of negotiable documents of title (see paras. 104 to 108, above), and more particularly transport documents, by EDI messages. This is the area where the need for statutory provisions seems to be developing most urgently with the increased use of EDI. The Commission may wish to request the Secretariat to prepare a study on the desirability and feasability of preparing such a text.

NOTES

1/ Report of the United Nations Commission on International Trade Law on the work of its seventeenth session, Official Records of the General Assembly, Thirty-ninth Session, Supplement No. 17 (A/39/17), para. 136.

2/ Official Records of the General Assembly, Fortieth Session, Supplement No. 17 (A/40/17), para. 360.

3/ Official Records of the General Assembly, Forty-third Session, Supplement No. 17 (A/43/17), paras. 46 and 47.

4/ Official Records of the General Assembly, Forty-fifth Session, Supplement No. 17 (A/45/17), paras. 34 to 40.

5/ TEDIS PROGRAMME 1988-1989 Activity Report, (Brussels, Commission of the European Communities, COM(90) 361 final, 25 July 1990), p.10 ff.

6/ TEDIS - The legal position of the Member States with respect to Electronic Data Interchange, (Brussels, Commission of the European Communities, September 1989).

7/ This subsection summarizes indications contained in the Commission communication on electronic data interchange (EDI) using telecommunications services networks (Brussels, Commission of the European Communities, COM (90) 475 final, 7 November 1990), p.10.

8/ Joint Working Group "Legal and Commercial aspects of EDI" - Terms of Reference, (ICC Document No. 460-10/2, Paris, 22 October 1990).

9/ Joint Working Party on Legal and Commercial aspects of EDI - Summary record of the meeting of 14 December 1990, (ICC Document No. 460-10/4, Paris, 30 January 1991), p. 1.

10/ Ibid., p. 4.

11/ Joint Working Party on Legal and Commercial aspects of EDI - Draft ICC policy statement on the development of EDI in international trade, (ICC Document No. 460-10/Int. 14 Rev.2, Paris, 12 April 1991).

12/ Comité maritime international - 1990 Paris - II, XXXIVth international conference of the Comité maritime international, p. 210.

13/ Françoise Gallouédec-Genuys and others, Une société sans papier? Nouvelles technologies de l'information et droit de la preuve, (Paris, La documentation française, 1990).

14/ The French tax law was recently modified (see Article 47 of the Loi de finances rectificative pour 1991) to treat, under certain conditions, electronic invoices as original invoices for the purposes of tax audit (Journal officiel de la République française, 30 December 1990.

15/ The Commercial Use of Electronic Data Interchange - A Report, (Chicago, Illinois, American Bar Association, 1990), p. 23. Also published in The Business Lawyer, vol. 45, No. S, June 1990, p. 1661.

16/ As regards the legal issues of EDI, the CCC Guidelines expressly follow the UNCID Rules (see A/CN.9/333, paras. 82 to 86).

17/ The Commercial Use of Electronic Data Interchange - A Report, (Chicago, Illinois, American Bar Association, 1990), p. 73. Also published in The Business Lawyer, vol. 45, No. S, June 1990, p. 1690.

18/ See The Commercial Use of Electronic Data Interchange - A Report, (Chicago, Illinois, American Bar Association, 1990), p. 56. Also published in The Business Lawyer, vol. 45, No. S, June 1990, p. 1680.

19/ New techniques are being developed to produce an integrated electronic environment. An example of such developments is the Computer-aided Acquisition and Logistic Support initiative (CALS) in the United States.

20/ See A. Bensoussan in La gazette de la télématique et de la communication inter-entreprises, No. 11, spring 1991, p. 20.

21/ Joint Working Party on Legal and Commercial aspects of EDI - Draft ICC policy statement on the development of EDI in international trade, (ICC Document No. 460-10/Int. 14 Rev.2, Paris, 12 April 1991).

22 Jan Ramberg, The International Commercial Law Series, vol. 1, "International Carriage of Goods: Some Legal Problems and Possible Solutions" (1988).